

F. LAUHOFF.

ROLL.

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1,062,170.

Patented May 20, 1913.

Fig. 1

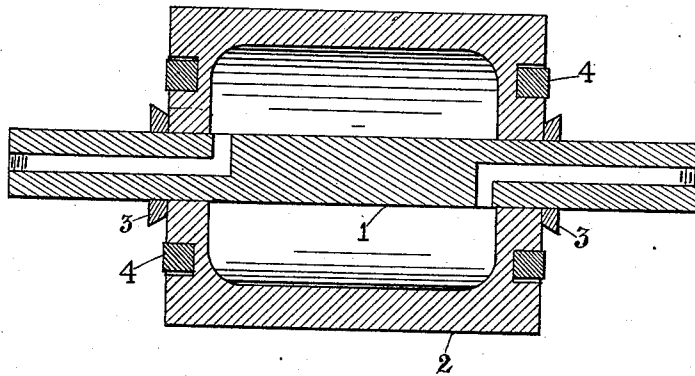
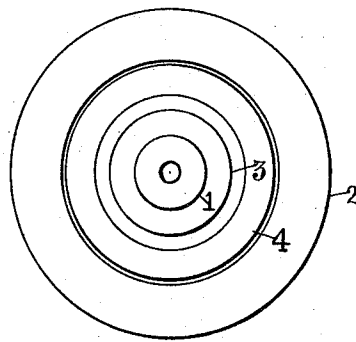


Fig. 2



Witnesses
A. M. Shannon.
A. M. Dow.

Inventor
FRANK LAUHOFF

By

Attorneys

UNITED STATES PATENT OFFICE

FRANK LAUHOFF, OF DETROIT, MICHIGAN.

ROLL.

1,062,170.

Specification of Letters Patent.

Patented May 20, 1913.

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To all whom it may concern:

Be it known that I, FRANK LAUHOFF, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Rolls, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a roll for flaking machines or the like for flaking corn, rice or other cereals and consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

15 Referring to the drawings, Figure 1 is a view in longitudinal section of a roll embodying features of the inventions; and Fig. 2 is a view in end elevation thereof.

20 In flaking mills or the like it is customary to hold each pair of rolls substantially in contact and to drive them positively at different peripheral speeds to obtain the desired result. This action heats the rolls and requires the application of a cooling fluid or like medium that is usually circulated through the body of each roll. As the face of the roll is more or less heated, it imposes great internal stress and frequently causes the rolls to fracture and to assist in preventing this the cooling agent is employed.

30 Referring to the drawings 1 indicates a roll shaft on which a hollow cylindrical roll 2 of cast metal is put on by hydraulic pressure in the usual manner with collars 3 likewise forced or pressed upon the shaft to prevent endwise displacement. Annular grooves are formed in the end faces of the roll. Preferably these grooves which are rectangular in cross section, are turned up on the roll after the latter has been mounted on the shaft. A ring 4 of wrought iron or steel, that has an inner diameter somewhat

less than the inner diameter of the groove, is expanded by heat and inset in the groove. The contraction of the band as it cools grips 45 the roll end firmly and prevents its fracture under ordinary use, and also prevents the roll from working loose upon the shaft as it is liable to do from the unequal contraction and expansion to which it is subjected. By 50 this means a roll of cast metal is obtained whose face may be readily chilled to any necessary depth while at the same time the torsional strain of driving the roll is met by the tensile strength of wrought metal, which 55 likewise prevents any internal strains in the roll from cracking it.

What I claim as my invention is:

1. In a flaking mill, a shaft, a roll thereon of cast metal having annular grooves in its end faces and a hollow cylindrical chamber between its ends adjacent to said grooves and in communication with passages in the shaft extending from the chamber to the shaft ends, and annular wrought metal inserts embedded in said grooves and shrunk upon that portion of the roll which they encircle for the purpose specified. 65

2. A roll for a mill comprising a shaft, a hollow cast metal cylindrical body pressed on the shaft and having an annular groove formed in each end face mid-way between its periphery and shaft, said body being provided with means for circulating a cooling medium through the body of the roll in proximity to said groove, and an annular wrought metal insert in each groove shrunk upon that portion of the roll it encircles. 70 75

In testimony whereof I affix my signature in presence of two witnesses.

FRANK LAUHOFF.

Witnesses:

MICHAEL DEIBLER,
MARY M. BEAUMES.